

a source region and a drain region provided in the convex semiconductor layer;
a semiconductor region having an impurity concentration higher than that of a channel region provided between the source and drain regions, the semiconductor region provided between the semiconductor substrate and the source region, between the semiconductor substrate and the drain region, and between the semiconductor substrate and the channel region, respectively; and

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C1*
a gate electrode having a side-wall gate portion provided over a side surface of the convex semiconductor layer, the gate electrode applying an electric field effect to the channel region and the semiconductor region via a gate insulator, a thickness of the gate insulator being constant, and the side-wall gate portion being offset with respect to a part of a lower portion of the source region and a part of a lower portion of the drain region.

2. (Amended) A semiconductor device comprising:

a convex semiconductor layer provided on a substrate;
a source region and a drain region provided in the convex semiconductor layer;
a semiconductor region having an impurity concentration higher than that of a channel region provided between the source and drain regions, the semiconductor region provided between the semiconductor substrate and the source region, between the semiconductor substrate and the drain region and between the semiconductor substrate and the channel region, respectively;

a gate electrode having a side-wall gate portion provided over a side surface of the convex semiconductor layer, the gate electrode applying an electric field effect to

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